

Translation

PATENT COOPERATION TREATY

PCT/JP2003/011403



PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P03-56	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/JP2003/011403	International filing date (day/month/year) 08 September 2003 (08.09.2003)	Priority date (day/month/year) 13 September 2002 (13.09.2002)
International Patent Classification (IPC) or national classification and IPC B41M 5/40		
Applicant OJI PAPER CO., LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☐ (sent to the applicant and to the International Bureau) a total of \_\_\_\_\_ sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☒ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☒ Box No. VI Certain documents cited

☐ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand 16 January 2004 (16.01.2004)	Date of completion of this report 31 August 2004 (31.08.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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## Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_, which is language of a translation furnished for the purpose of:
- ☐ international search (under Rules 12.3 and 23.1(b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

- ☒ The international application as originally filed/furnished
- ☐ the description:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the claims:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_, as amended (together with any statement) under Article 19
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- pages \_\_\_\_\_, as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## Box No. IV Lack of unity of invention

1. ☐ In response to the invitation to restrict or pay additional fees the applicant has:
- ☐ restricted the claims.
  - ☐ paid additional fees.
  - ☐ paid additional fees under protest.
  - ☐ neither restricted nor paid additional fees.
2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

It is considered that the common matter of claims 1-19 is described in documents [US, 5593938, A (Fuji Photo Film Co., Ltd.), 14 January, 1997 (14.01.97)] and [JP, 10-193796, A (Ricoh Co., Ltd.), 28 July, 1998 (28.07.98)], and so does not appear to be novel.

The above-mentioned common matter 1, therefore, is not a special technical feature as provided in the second sentence in PCT Rule 13.2. There is no matter common to all the claims.

There are no other common matters to be considered as a special technical feature in the sense of the second sentence in PCT Rule 13.2, and so there is no special technical feature among those different inventions in the sense of the second sentence in PCT Rule 13.2, and there is no technical relationship among those different inventions as meant in the provisions of PCT Rule 13.1.

Therefore, claims 2-19 describe the following seven different inventions.

1. Claim 2: Thermal recording material of claim 1, wherein the thickness of the backside layer is specified
2. Claims 3-5: Thermal recording material of claim 1, wherein an adhesive in the backside layer is specified
3. Claims 6-8: Thermal recording material of claim 1, wherein an adhesive in the protective layer is specified
4. Claims 9-13: Thermal recording material of claim 1, wherein the types of lubricant of the protective layer, etc., are specified
5. Claims 14-17: Thermal recording material of claim 1, wherein an adhesive in the thermal recording layer, etc., is specified
6. Claim 18: Thermal recording material of claim 1, wherein the range of thickness of transparent film is defined
7. Claim 19: Thermal recording material of claim 1, wherein the range of haze value for it is defined

4. Consequently, this report has been established in respect of the following parts of the international application:

- ☒ all parts.
- ☐ the parts relating to claims Nos. \_\_\_\_\_

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

## 1. Statement

Novelty (N)	Claims	3-17	YES
	Claims	1, 2, 18, 19	NO
Inventive step (IS)	Claims		YES
	Claims	1-19	NO
Industrial applicability (IA)	Claims	1-19	YES
	Claims		NO

## 2. Citations and explanations (Rule 70.7)

Document 1: US, 5593938, A (Fuji Photo Film Co., Ltd.), 14 January, 1997 (14.01.97), column 7, lines 23-48, column 13, line 24 to column 15, line 20, column 17, lines 25-46

Document 2: JP, 10-193796, A (Ricoh Co., Ltd.), 28 July, 1998 (28.07.98), [0013]-[0015], [0038]-[0040], [0050], and [0051]

Document 3: US, 5919729, A (Ricoh Co., Ltd.), 6 July, 1999 (06.07.99), full text

Document 4: US, 5409881, A (Ricoh Co., Ltd.), 25 April, 1995 (25.04.95), full text

Document 5: JP, 6-32056, A (Ricoh Co., Ltd.), 8 February, 1994 (08.02.94), full text

Document 6: JP, 9-220857, A (Ricoh Co., Ltd.), 26 August, 1997 (26.08.97), full text

Document 7: JP, 7-290822, A (Oji Paper Co., Ltd.), 7 November, 1995 (07.11.95), [0028], [0034], full text

Document 8: JP, 9-226252, A (Oji Paper Co., Ltd.), 2 September, 1997 (02.09.97), claim 1, [0012]

Document 9: JP, 10-157299, A (Fuji Photo Film Co., Ltd.), 16 June, 1998 (16.06.98), claim 3, [0090], [0091]

Document 10: JP, 11-115311, A (Oji Paper Co., Ltd.), 27 April, 1999 (27.04.99), [0024], [0026], [0043], [0044]

Document 11: JP, 11-70735, A (Fuji Photo Film Co., Ltd.), 16 March, 1999 (16.03.99), claims 1 and 2

Document 12: JP, 2000-6520, A (Oji Paper Co., Ltd.), 11 January, 2000 (11.01.00), full text

The subject matters of claims 1, 2, 18 and 19 are described in document 1 (column 7, lines 23-48, column 13, line 24 to column 15, line 20, column 17, lines 25-46), and the thickness of the backside layer is calculated as approximately 1  $\mu\text{m}$  in view of the descriptions therein, and so those subject matters do not appear to be novel or to involve an inventive step.

The subject matters of claims 1, 2, 18 and 19 are described in document 2 (paragraphs [0013]-[0015], [0038]-[0040], [0050] and [0051]), and so do not appear to be novel or to involve an inventive step.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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## Box No. VI Certain documents cited

## 1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date (day/month/year)	Filing date (day/month/year)	Priority date (valid claim) (day/month/year)
JP 2002-331752 A [E, X]	19.11.2002	10.05.2001	
JP 2002-331753 A [E, X]	19.11.2002	10.05.2001	
JP 2003-266943 A [E, X]	25.09.2003	15.03.2002	
JP 2003-276329 A [E, X]	30.09.2003	20.03.2002	

## 2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure (day/month/year)	Date of written disclosure referring to non-written disclosure (day/month/year)

**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.

Continuation of V.2

The subject matters of claims 3 and 4 do not appear to involve an inventive step in view of the inventions described in documents 1 and 2, and the well-known technologies described in documents 3-6.

Using a (meta) acrylamide resin adhesive at a temperature of 180-250°C as an adhesive in the backside layer containing resin particles is well known as described in documents 3-6.

The subject matter of claim 5 does not appear to involve an inventive step in view of the inventions described in documents 1-6 and that described in document 7.

Document 7 describes that a polyurethane ionomer is used as an adhesive in the backside layer.

On the other hand, polyurethane is described as an adhesive that can be used in combination with the adhesives in documents 1 and 2, and with the (meta) acrylamide resin adhesive in documents 2-6.

Accordingly, it would be easy to use the polyurethane ionomer in document 7 in combination.

The subject matters of claims 6-8 do not appear to involve an inventive step in view of the inventions described in documents 1 and 2, and those in documents 7 and 8.

Document 7 describes a protective layer where a polyurethane ionomer and an acetoacetyl denatured polyvinyl alcohol are used in combination.

Document 8 describes that a polyurethane ionomer can be used in combination with an acetoacetyl group denatured polyvinyl alcohol. The degree of polymerization, the degree of saponification, and the ratio of them in combination could be decided as required by a person skilled in the art.

The subject matters of claims 9-13 do not appear to involve an inventive step in view of the inventions and well-known technologies described in documents 1 and 2.

A constitution wherein the protective layer contains an alkyl phosphate, wax and a higher fatty acid amide, or a fluorine surfactant, is well known as described in documents 9-11.

It would be easy to use them in combination as required.

The subject matters of claims 14-17 do not appear to involve an inventive step in view of the inventions described in documents 1 and 2, and that in document 12.

Document 12 describes that an ionomer-type polyurethane and styrene-butadiene latex in combination are used in the thermal recording layer.

Containing substances in microcapsules is a well-known technology, and is also described in document 1.

The thickness of the thermal recording layer could also be easily set in view of documents 1, 2 and 12.